

3 (Sem-2/CBSC) in

2022

ENGLISH

Paper : ENO-BC 2016
(Honours Core)

Full Marks : 80

Time : 3 hours

The figures in the margin indicate
for the questions

Answer any ten of the following 40

- (a) What was the profession of
girl's father?
- (b) In which year was the poem
the Slave composed?
- (c) What happened to the boy
Das' grandfather after h

(a) What are the limitations of file based
system ?
एक फाइल सिस्टम के अंतर्भाव में ?

4. Answer any three questions : 10×3=30
अथवा निम्न में से तीन प्रश्न उत्तर दें :

- (a) Write down the steps used for
conversion of ER diagram to a
relational database.
ER डायग्राम को संबंधित डेटाबेस में
परिवर्तित करने के चरण लिखें।
- (b) Explain the advantages and
disadvantages of DDBMS.
DDBMS के अंतर्भाव में अंतर्भाव के
अनुकूलताएं और DDBMS के
नुकूलताएं की व्याख्या करें।
- (c) What is normalization ? Define 1NF,
2NF and 3NF with examples.
नॉर्मलाइजेशन क्या है ? 1NF, 2NF और 3NF
के अर्थ दें। उदाहरण सहित करें।
- (d) Consider the relational schema and
write SQL statements to perform the
following tasks :
2+2+2+2=10
एक संबंधित डेटाबेस की रचना दी है। निम्न
कार्यों को करने के लिए SQL कथन लिखें :

18

EMPLOYEE (SSN, NAME, DOB, DATE,
SALARY, GENDER, SUPERVISOR,
DNO)
DEPARTMENT (DNO, DEPARTMENT,
MGRSSN)

(i) Retrieve the name of all
employees who work for
Purchase department.
Purchase विभाग में काम करने वाले
कर्मचारियों का नाम दें।

(ii) Retrieve all employees in
department number 2 whose
salary is between 20,000 and
30,000.
2 नं. विभाग में काम करने वाले कर्मचारियों का नाम
जिनका वेतन 20,000 और 30,000 के बीच है।

(iii) For each employee, display
supervisor's name.
प्रत्येक कर्मचारियों के निरीक्षकों के नाम
देने दें।

Contd.

11

2022

ENGLISH

Paper : ENG-BC-2016
(Honours Core)

Full Marks : 80

Time : 3 hours
Answer any ten of the following questions in the margin indicated for the questions

What was the profession of the girl's father?
In which year was the play 'The Shrike' composed?
What happened to the Duke's grand-daughter after...

(ii) Write short notes on the following :
5*5=10

- Success and Weak Entry
- Strong SIP Weak Entry
- DDL and DML commands
- DDL, DDL, DML, DDL

(iii) Consider the following relational schema and write queries in SQL :
2*2=2+2+2=10

relational schema :
Student (RollNo, Name, Semester, Course No) Course (Course No, Course Name)
R1: Returns names of all students who are admitted to course 'BSC' and are in 2nd semester.
R2: Returns names of all students whose course name is 'BSC' and who are in 2nd semester & their BSC is 2nd semester & their BSC is 2nd semester.

- (i) Display the names of all students whose course name is 'BSC' and who are in 2nd semester.
- (ii) Display the names of all students BSC is 2nd semester & their BSC is 2nd semester.

1199-1128 (2) 11/11/2020 20

(iii) Display the details of all courses in which more than 100 students get admission.

100 students who are in 2nd semester.

- (i) Change the name of Roll No=2 to 'Mahesh Das'.
- (ii) Roll No=2 & the name of Mahesh Das is:

- (i) For each course, display the number of students admitted to the course.
- (ii) Display the name of the student who is in the course.

1199-1128 (2) 11/11/2020 20

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2022

ENGLISH

per : ENG-HC-2016
Honours Core)

Full Marks : 80

Time : 3 hours

in the margin indicate full
for the questions

any ten of the following quest

at was the profession of the
's father?

which year was the poem,
e we composed?

that happened to the Sou
another since he

(h) Define foreign key. Why is this concept used for ? 1+1=2

Foreign key ব সংজ্ঞা লিখ। Foreign key ব থাকলে কিয় ব্যবহার করা হয় ?

3. Answer any three questions : 5×3=15

যিকোনো তিনটি প্রশ্ন উত্তর লিখ :

(a) List any five SQL commands and write the purpose of each of them. 1+4=5

যিকোনো পাঁচটা SQL আদেশের তালিকা প্রস্তুত করা আৰু প্ৰত্যেকৰে প্ৰয়োজনীয়তা উল্লেখ কৰা।

(b) What is relational algebra ? Explain any two operations of relational algebra. 1+2+2=5

Relational algebra কি ? ইয়াৰ যিকোনো দুটা কৰ্মপদ্ধতি ব্যাখ্যা কৰা।

(c) Briefly explain the characteristics of DBMS.

DBMS ৰ বৈশিষ্ট্যসমূহ চমু বৰ্ণনা দিয়া।

(d) Explain various relational constraints.

Relational constraint সমূহ বৰ্ণনা দিয়া।

(e) Briefly explain the SQL commands used to modify database.

ভাৰ্টেবেছ পৰিৱৰ্তন কৰিবলৈ ব্যৱহাৰ হোৱা SQL আদেশসমূহ চমু বৰ্ণনা দিয়া।

(f) Discuss the naming conventions used for ER schema diagrams.

ER schema চিত্ৰৰ নামকৰণ প্ৰথাৰ বিষয়ে আলোচনা কৰা।

(g) What is functional dependency ? Discuss various types of dependencies. 1+4=5

কাৰ্যকৰী নিৰ্ভৰশীলতা মানে কি ? বিভিন্ন প্ৰকাৰৰ নিৰ্ভৰশীলতাসমূহৰ বিষয়ে আলোচনা কৰা।

What was the profession of the girl's father?
In which year was the poet's statue completed?
What happened to the poet's friend?

(iv) Increase salary of all employees working in 'system' department by 7%.

(v) Delete the record for employees who work in 'Research' department.

Research: Name, Age, Salary
Employee: EmpID, EmpName, EmpSalary

(vi) Write short notes on the following:
1.5-10

(a) Primary key

(b) Foreign key

(vii) Consider the following relational schema:
2+2+2+2=10

EMP (EmpID, Name, Salary, Dept, EmpDept)
DEPT (DeptID, DeptName, ManagerID)
Write SQL statements for the following:

1. Increase salary of all employees in 'system' department by 7%.

1.5-10 (2+2+2+2) 10

(viii) Display names of managers of all departments.

(ix) Display the names of all employees with salary > 10,000.

(x) Display number of employees working in each department.

(xi) Decrease salary of every employee by 3%.

(xii) Display details of all employees who were born before 01.01.1990.

01.01.1990 & after
2.5+2.5+2.5+2.5=10

1.5-10 (2+2+2+2) 10

Contd.

- (i) SQL stands for
SQL ব মূল কপ হ'ল
- (ii) Standard Query Language
- (iii) Structured Query Language
- (iv) Second Query Language
- (v) Stylish Query Language

- (i) Redundancy is minimised with
computer based database approach

কম্পিউটার আধাৰিত ডাটাবেছৰ সহায়ত অপ্ৰয়োজনীয়
ডাটাসমূহ ন্যূনতম কৰিব পাৰি -

- (i) true
- (ii) false
- (iii) sometimes true
- (iv) can't predict

2. Answer **any four** questions : $2 \times 4 = 8$

যিকোনো চাৰিটা প্ৰশ্নৰ উত্তৰ লিখা :

- (a) Define relationship. What are the
different types of relationship ?

$1+1=2$

ডাটাবেছৰ ক্ষেত্ৰত বিলেচনশ্বিপ সংজ্ঞা লিখা। বিভিন্ন
প্ৰকাৰ বিলেচনশ্বিপবোৰ কি ?

3 (Sem-2/CBCS) CSC HG 1/2/3, BC/G 12

- (b) Define 3NF with example.
উদাহৰণসহ 3NF ব সংজ্ঞা লিখা।
- (c) What are the advantages of DBMS ?
DBMS ৰ উপযোগিতাসমূহ উল্লেখ কৰা।

- (d) Define entity integrity and referential
integrity. $1+1=2$

Entity integrity আৰু referential integrity
ৰ সংজ্ঞা লিখা।

- (e) What are the basic data types
available in SQL ?
SQL-ত উপলব্ধ মৌলিক ডাটাসমূহ কি ?

- (f) What are the difference between fixed
length record and variable length
record ?

অপৰিবৰ্তনশীল দৈৰ্ঘ্যৰ ৰেকৰ্ড আৰু পৰিবৰ্তনশীল
দৈৰ্ঘ্যৰ ৰেকৰ্ডৰ মাজত থকা পাৰ্থক্যসমূহ কি ?

- (g) Why are duplicate tuples not allowed
in a relation ?

ডাটাবেছৰ এটা বিলেচনত অনুলিপিত tuple সমূহক
কিয় মালি লোৱা নহয় ?

Contd.

3 (Sem-2/CBCS) CSC HG 1/2/3, BC/G 13

OPTION - B

Paper : CSC-RC-2016 / CSC-HG-2026

(Database Management System)

1. Fill in the blanks : (any seven) 1×7=7

খালী ঠাই পূৰণ কৰা : (যিকোনো সাতটা)

(a) Relational database stores data in the form of _____.

বিলেচনেল ডাটাবেছত ডাটাবেচ _____ আকাৰত জমা হয়।

(b) The _____ identifies individual tuples uniquely.

_____ এ পৃথক tuple বোৰ একক চিনাক্তকৰণ কৰে।

(c) A relation is an _____ NF, if there is no transitive dependency for non prime attributes.

এটা বিলেচন _____ NF ত থাকিব যদিহে অমৌলিক বৈশিষ্ট্যসমূহৰ মাজত transitive dependency নাথাকে।

(d) The definition of a table can be changed by using _____ command.

এখন টেবুলৰ সংজ্ঞা সলনি কৰিবলৈ _____ আদেশ ব্যৱহাৰ কৰা হয়।

(e) The basic data retrieval statement in SQL is _____.

ডাটা পুনৰুদ্ধাৰ বাবে SQL ত ব্যৱহাৰ হোৱা প্ৰাথমিক আদেশ হ'ল _____।

(f) DML commands modify the actual structure of a database.
(State true or false)DML আদেশসমূহে ডাটাবেছৰ মূল গঠনৰ সংশোধন ঘটাব পাৰে।
(সঠি নে মিছ লিখা)(g) Attributes are the properties of an entity.
(State true or false)Attribute সমূহ হ'ল এটা entity ৰ বৈশিষ্ট্য।
(সঠি নে মিছ লিখা)(h) A tuple refers to a row in a relation.
(State true or false)এটা tuple এ সম্পৰ্কীয় ডাটাসমূহৰ এটা শাৰীক সূচায়।
(সঠি নে মিছ লিখা)

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